AMENDMENTS TO THE CLAIMS

Listing of Claims:

1-37. (Canceled)

38. (Withdrawn) A method for the production of a powder comprising essentially spherical particles of an aromatic polyether ketone plastic, comprising: mixing a matrix micropowder into a liquid phase to form a suspension wherein the particle size of the matrix micropowder is less than the particle size of the powder; spraying the suspension through a nozzle to form droplets comprising the matrix micropowder; and vaporizing or evaporating a liquid component from the droplets to form the powder in the form of essentially spherical agglomerates.

39. (Withdrawn) The method according to claim 38, wherein the liquid phase is further mixed with at least one of a reinforcing fiber or a stiffening fiber having a length less than the particle size of the powder.

40. (Withdrawn) The method according to claim 38, wherein the matrix micropowder has an average grain size d_{50} between 3 and 10 μm.

41. (Withdrawn) The method according to claim 38, wherein the matrix micropowder has an average grain size d_{50} of 5 μm.

42. (Withdrawn) The method of claim 39, wherein the fibers have an average length L50 of 20 to 150 μm.

43. (Withdrawn) The method according to claim 39, wherein the fibers have an average length L50 of 40 to 70 μm.

44. (Withdrawn) The method according to claim 39, wherein the matrix micropowder has an average grain size d_{50} between 3 and 10μm and the fibers have an average length L50 of 10 to 100 μm.

45. (Withdrawn) The method according to claim 39, wherein the matrix micropowder has an average grain size d_{50} of 5 μm and the fibers have an average length L50 of 10 to 80 μm.

46. (Withdrawn) The method according to claim 38, wherein the droplets have an average diameter d_{50} of 10 to 70 μm.

47. (Withdrawn) The method according to claim 38, wherein the vaporizing or evaporating is carried out with the droplets are moving through a heating segment.

48. (Withdrawn) A method for the production of a powder comprising a first component in the form of essentially spherical powder particle or least one of a stiffening fiber or a reinforcing fiber wherein the first component comprises a matrix material, and the fibers are powder particles, comprising mixing a matrix micropowder with a liquid phase to form a suspension wherein the particle size of the matrix micropowder is less than the particle size of the powder; spraying the suspension through a nozzle to form droplets comprising the matrix micropowder; and vaporizing or evaporating a liquid component from the droplets to form the powder in the for of essentially spherical agglomerates,

49. (Withdrawn) The method according to claim 48, wherein the liquid phase is further mixed with at least one of a reinforcing fiber or a stiffening fiber having a length less than the particle size of the powder.

50. (Withdrawn) The method according to claim 48, wherein the matrix micropowder has an average grain size d_{50} between 3 and 10 μm.

51. (Withdrawn) The method according to claim 48, wherein the matrix micropowder has an average grain size d_{50} of 5 μm.

52. (Withdrawn) The method of claim 48, wherein the fibers have an average length L50 of 20 to 150 μm.

53. (Withdrawn) The method according to claim 48, wherein the fibers have an average length L50 of 40 to 70 μm.

54. (Withdrawn) The method according to claim 49, wherein the matrix micropowder has an average grain size d_{50} between 3 and 10 μm and the fibers have an average length L50 of 10 to 100 μm.

55. (Withdrawn) The method according to claim 49, wherein the matrix micropowder has an average grain size d_{50} of 5 μm and the fibers have an average length L50 of 10 to 80 μm.

56. (Withdrawn) The method according to claim 48, wherein the droplets have an average diameter d_{50} of 10 to 70 μm.

57. (Withdrawn) The method according to claim 48 wherein the vaporizing or evaporating is carried out while the droplets are moving through a heating segment.

58. (Withdrawn) A method for the production of a powder comprising essentially spherical particles of an aromatic polyether ketone plastic, comprising: cooling a coarse granulate comprising a plastic matrix material to form brittle, coarse granulates; grinding the brittle, coarse granulates; and separating the ground granulate into a fraction spectrum.

59. (Withdrawn) The method according to claim 58, wherein the coarse granulate is a fiber-reinforced plastic matrix material.

60. (Withdrawn) The method according to claim 58, wherein the grinding is carried out with a pinned disk mill.

61. (Withdrawn) The method according to claim 58, wherein the grinding is carried out with cooling.

62. (Withdrawn) The method according to claim 58, wherein the separating is carried out with an air separator.

63. (Withdrawn) The method according to claim 58, further comprising: smoothing the ground granulate.

64. (Withdrawn) The method according to claim 63, wherein the smoothing is carried out by embedding or accumulating at least one of microparticles or nanoparticles.

65. (Withdrawn) A method for producing a powder comprising a first component in the form of essentially spherical powder particles and at least one of a stiffening fiber or a reinforcing fiber, wherein the first component comprises a matrix material, comprising: cooling a coarse granulate comprising a plastic matrix material to form brittle, coarse granulates; grinding the brittle, coarse granulates; and separating the ground granulate into a fraction spectrum.

66. (Withdrawn) The method according to claim 65, wherein the coarse granulate is a fiber-reinforced plastic matrix material.

67. (Withdrawn) The method according to claim 65 wherein the grinding is carried out with a pinned disk mill.

68. (Withdrawn) The method according to claim 65, wherein the grinding is carried out with cooling.

69. (Withdrawn) The method according to claim 65, wherein he separating is carried out with an air separator.

70. (Withdrawn) The method according to claim 65, further comprising smoothing the ground granulate.

71. (Withdrawn) The method according to claim 70, wherein the smoothing is carried out by embedding or accumulating at least one of microparticles or nanoparticles.

72. (Currently amended) A method for producing a powder comprising essentially spherical powder particles of an aromatic polyether ketone plastic for use in providing a very uniform powder surface in the production of three-dimensional structures or molded bodies by means of layered manufacturing methods, the method comprising:

melting a matrix material;

blowing the melted matrix material through a nozzle to form droplets; and

passing the droplets through a cooling segment, wherein a medium grain size d_{50} of the spherical powder particles lies in a range from about 20 micrometers (μm) to about 150 μm.

73. (Currently amended) The method according to claim 72, further comprising:

stirring at least one of stiffening fibers or reinforcing fibers of a medium length not greater than that of the medium grain size into the melted matrix material before blowing the melted matrix material.

74. (Previously presented) The method according to claim 72, wherein the droplets are formed in a hot gas jet.

75. (Previously presented) The method according to claim 72, further comprising:

separating the cooled droplets into a fraction spectrum.

76. (Currently amended) A method for producing a powder comprising a first component in the form of essentially spherical powder particles and at least one of a stiffening fiber or a reinforcing fiber for use in the production of three-dimensional structures or molded bodies by means of layered manufacturing methods, wherein the first component comprises a matrix material, the method comprising:

melting a matrix material;

blowing the melted matrix material through a nozzle to form droplets; and

passing the droplets through a cooling segment, and wherein a medium length L50 of the fibers does not lie above ~~maximally corresponds to the value of~~ the medium grain size d_{50} of the spherical powder particles to be achieved.

77. (Currently amended) The method according to claim 76, further comprising: stirring at least one of the stiffening or reinforcing fibers into the melted matrix material before blowing the melted matrix material.

78. (Previously presented) The method according to claim 76, wherein the droplets are formed in a hot gas jet.

79. (Previously presented) The method according to claim 76, further comprising: separating the cooled droplets into a fraction spectrum.

80. (Withdrawn) A method for producing a spatial structure, comprising: melting the powder according to claim 38.

81. (Withdrawn) The method according to claim 80, wherein melting includes powder-based generative rapid prototyping, selective laser sintering of laser melting.

82. (Withdrawn) A method for producing a spatial structure, comprising: melting the powder according to claim 48.

83. (Withdrawn) The method according to claim 82, wherein melting includes powder-based generative rapid promoting, selective laser sintering or laser melting.

84. (Withdrawn) A molded body obtained by powder-based generative rapid prototyping of the powder according to claim 38.

85. (Withdrawn) The molded body of claim 84, wherein the powder-based generative rapid prototyping is selective laser sintering or laser melting.

86. (Withdrawn) A molded body obtained by powder-based generative rapid prototyping of the powder according to claim 38.

87. (Withdrawn) The molded body of claim 86, wherein the powder-based generative rapid prototyping is selective laser sintering or laser melting.

88. (Withdrawn) The molded body according to claim 84, comprising one or more interior reinforcements.

89. (Withdrawn) The molded body according to claim 84, comprising a three-dimensional framework reinforcement.

90. (Withdrawn) The molded body according to claim 86, comprising one or more interior reinforcements.

91. (Withdrawn) The molded body according to claim 86, comprising a three-dimensional framework reinforcement.

92. (Withdrawn) A molded body obtained by powder-based generative rapid prototyping of the powder according to claim 38.

93. (Withdrawn) The molded body of claim 92, wherein the powder-based generative rapid prototyping is selective laser sintering or laser melting.

94. (Withdrawn) The molded body according to claim 93, comprising one or more interior reinforcements.